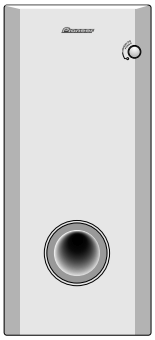
Pioneer sound.vision.soul

Service Manual



ORDER NO.
RRV2562

5.1ch SPEAKER SYSTEM(SATELLITE SPEAKER/POWERED SUBWOOFER)

S-HS01

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	S-HS01		
MLXTW/E	○	AC220 – 230V∿	———
SDBXTW/E	○	AC110V/120–127V/220V/240V∿	With the voltage selector at the rear plate

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

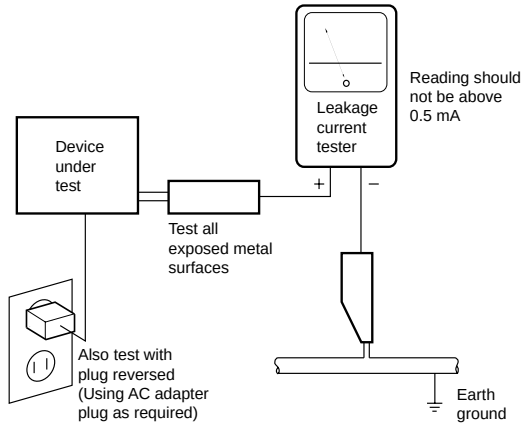
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Reading should not be above 0.5 mA
Leakage current tester
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

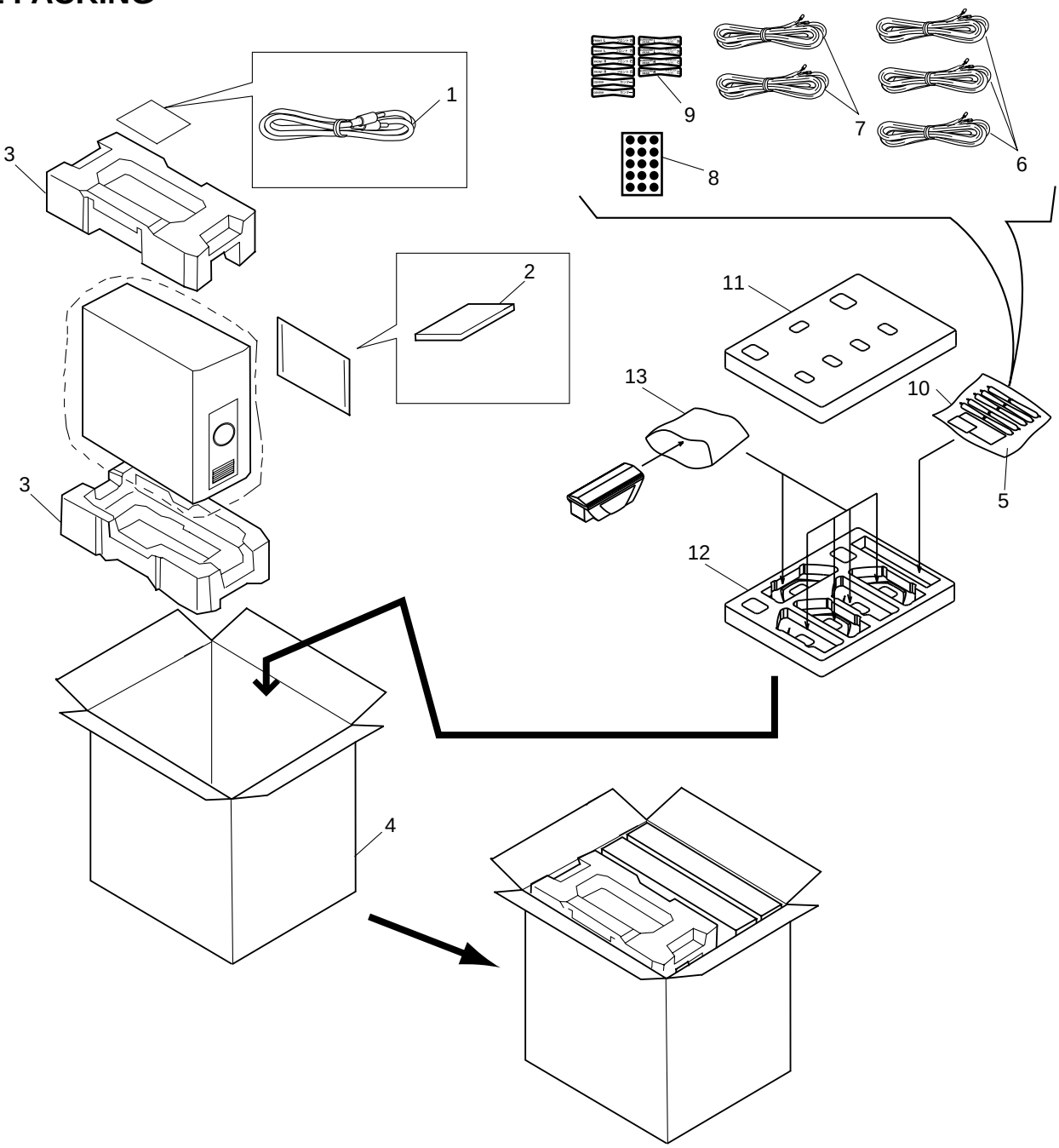
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on product are used for disassembly.*

2.1 PACKING

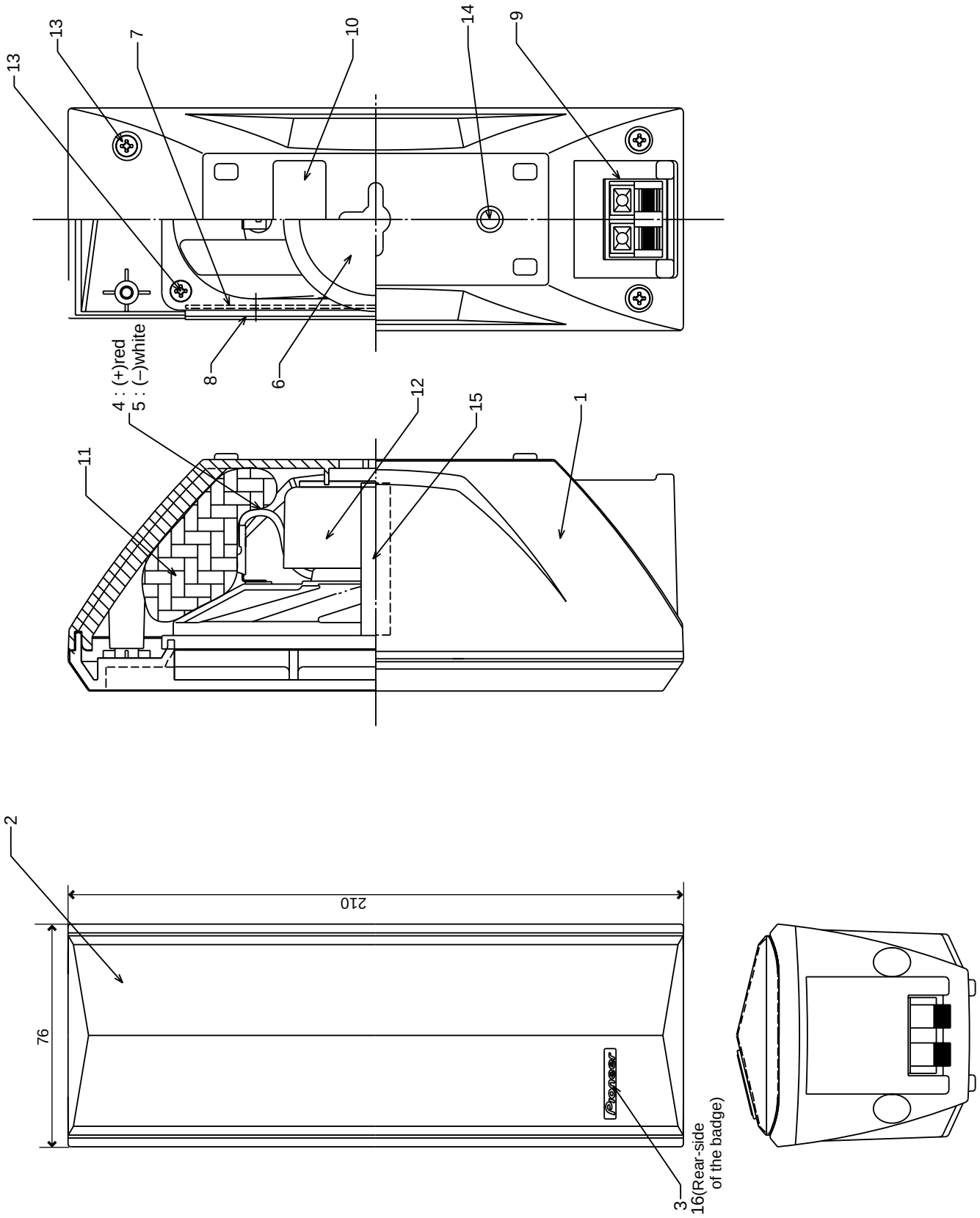


■ PACKING PARTS LIST

Mark	No.	Description	Part No.
	1	RCA Plug Cord	VRC0001-A06
	2	Opearting Instructions (English,Chinese) (MLXTW/E type)	SRD1229
	2	Opearting Instructions (English,Chinese,Spanish) (SDBXTW/E type)	SRD1230
	3	Protector	ITF0114C001
	4	Packing Case (MLXTW/E type)	SHG2395
	4	Packing Case (SDBXTW/E type)	SHG2396

Mark	No.	Description	Part No.
NSP	5	Speaker Cord Set	SEA1573
	6	Speaker Cord(Front/Center)	SDS1086
	7	Speaker Cord(Rear)	SDS1087
	8	Non Slip Pads	SEP1227
	9	Color-coded Labels	SRW1082
NSP	10	Polyethylene Bag	SHL1251
	11	Protector	SHA2327
	12	Protector	SHA2329
	13	Polyethylene Bag	SHL1252

2.2 SATELLITE SPEAKER



■ SATELLITE SPEAKER PARTS LIST

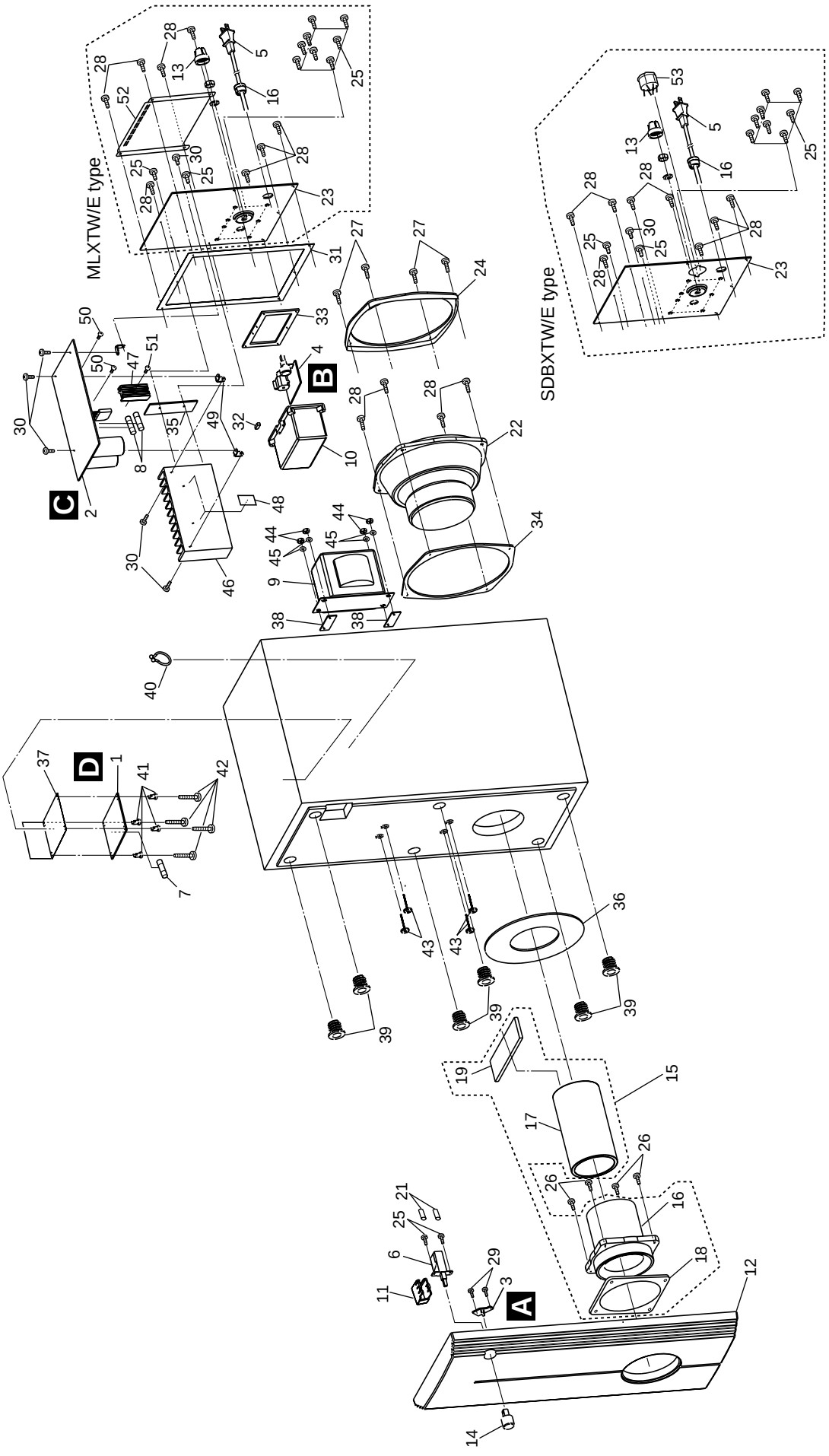
Mark	No.	Description	Part No.
NSP	1	Cabinet	SNK2567
	2	Grille	SMG1746
	3	Logo 24	SAM1491
	4	Speaker Cord (Red)	SDB1144
	5	Speaker Cord (White)	SDB1145
	6	Packing	SEC1571
	7	Gasket	SEC1573
	8	Packing	SEC1574
NSP	9	Input Terminal	SKX1076
NSP	10	Stamped Model Label	SME3269
NSP	10	└ Label Back	SAN3045
NSP	11	Acoustic Absorbent	SMT1137
	12	Speaker	A142CU54-51F
	13	Screw	PPZ40P080FZK
	14	Fung Nut M5	SBN1044
	15	Packing	SEC1580
NSP	16	Outside Stopper Ring	SBG1005

■ SPEAKER CORD CONNECTING DIAGRAM

Speaker Cord (SDB1144/SDB1145)

S-HS01

2.3 POWERED SUBWOOFER



(1) POWERED SUBWOOFER PARTS LIST

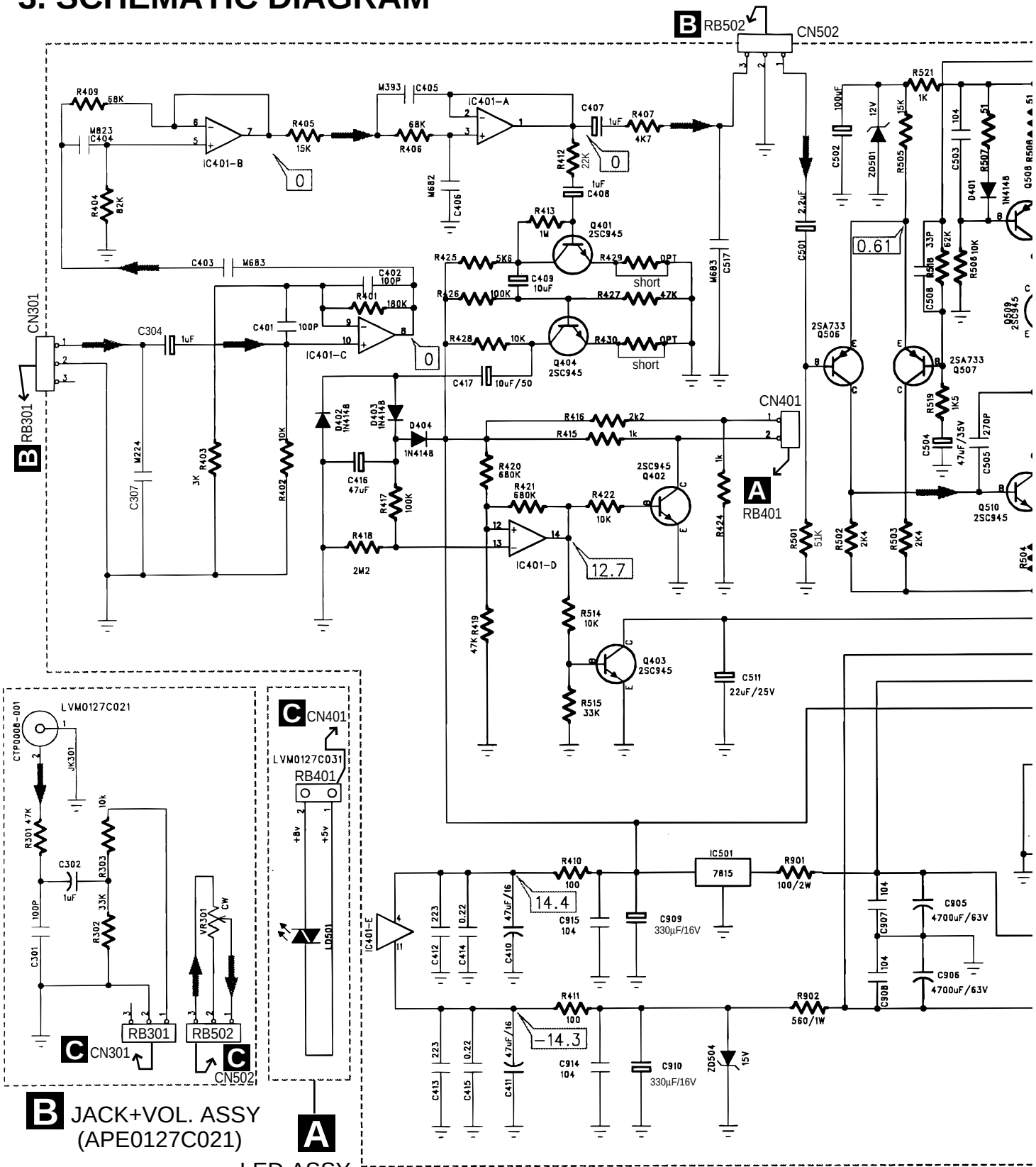
Mark	No.	Description	Part No.
	1	POWER ASSY	See Contrast Table(2)
	2	MAIN ASSY	APE0127C011
	3	LED Assy	APE0127C031
	4	JACK+VOL. ASSY	APE0127C021
⚠	5	AC Power Cord	See Contrast Table(2)
⚠	6	Power Switch (SW901)	MSP0001-A18
⚠	7	Fuse (F903)	See Contrast Table(2)
⚠	8	Fuse (F901, F902) (T4AL/250V)	KSA2400-104
⚠	9	Power Trans (T1)	See Contrast Table(2)
	10	Cover	BPC0029C001
	11	SW Cover	BPC0042-001
	12	Front Cabinet	BPF5027C001
	13	Volume Knob	BPK5018-004
	14	Power Knob	BPK6018C001
	15	Port Tube Assy	AFA0033C001
NSP	16	├─Port Tube	BPR0014CESO
NSP	17	├─Paper Tube	DPP5648-088
NSP	18	├─Sponge	IVE0133C001
NSP	19	└─Sponge	IVE0113C001
	20	Bushing	DBU0002-101
	21	Tubing	DTB0800-034
	22	Speaker	FTW5054-311
NSP	23	Rear Plate	See Contrast Table(2)
	24	Speaker Grille	GSP0028C001
	25	Screw	H011009-310
	26	Screw	TNC30P120FZK
	27	Screw	H011009-322
	28	Screw	TNC35P140FZK
	29	Screw	PRZ20P060FMC
	30	Screw	PCZ30P080FZK
NSP	31	Sponge	IVE0073C001
	32	Sponge	IVE0074C001
NSP	33	Sponge	IVE0090C001
	34	Sponge	IVE0091C001
	35	Sponge	IVE0101C001
NSP	36	Sponge	IVE0103C001
NSP	37	PVC Plate	BNP0049C001
	38	Rubber Pad	BRB0029C001
NSP	39	Catch	DCA1116-001
NSP	40	Twist Lock	DMP2001-001
	41	Spacer	DSS0003-003
	42	Screw	BYC30P250FMC
	43	Screw	AMZ40P250FMC
	44	Nut	NB40FMC
	45	Washer	WH40FUC
	46	Heat Sink	GAL0063C001
	47	Heat Sink	GAL0107-004
	48	Mica Sheet	GMI0006-001
	49	PCB Bracket	GSE0093-002
	50	Screw	ABZ30P120FZK
	51	Screw	PBZ30P060FZK
	52	Rear Panel Cover	See Contrast Table(2)
⚠	53	Voltage Selector	See Contrast Table(2)

(2) CONTRAST TABLE

S-HS01/MLXTW/E and S-HS01/SDBXTW/E are constructed the same except for the following:

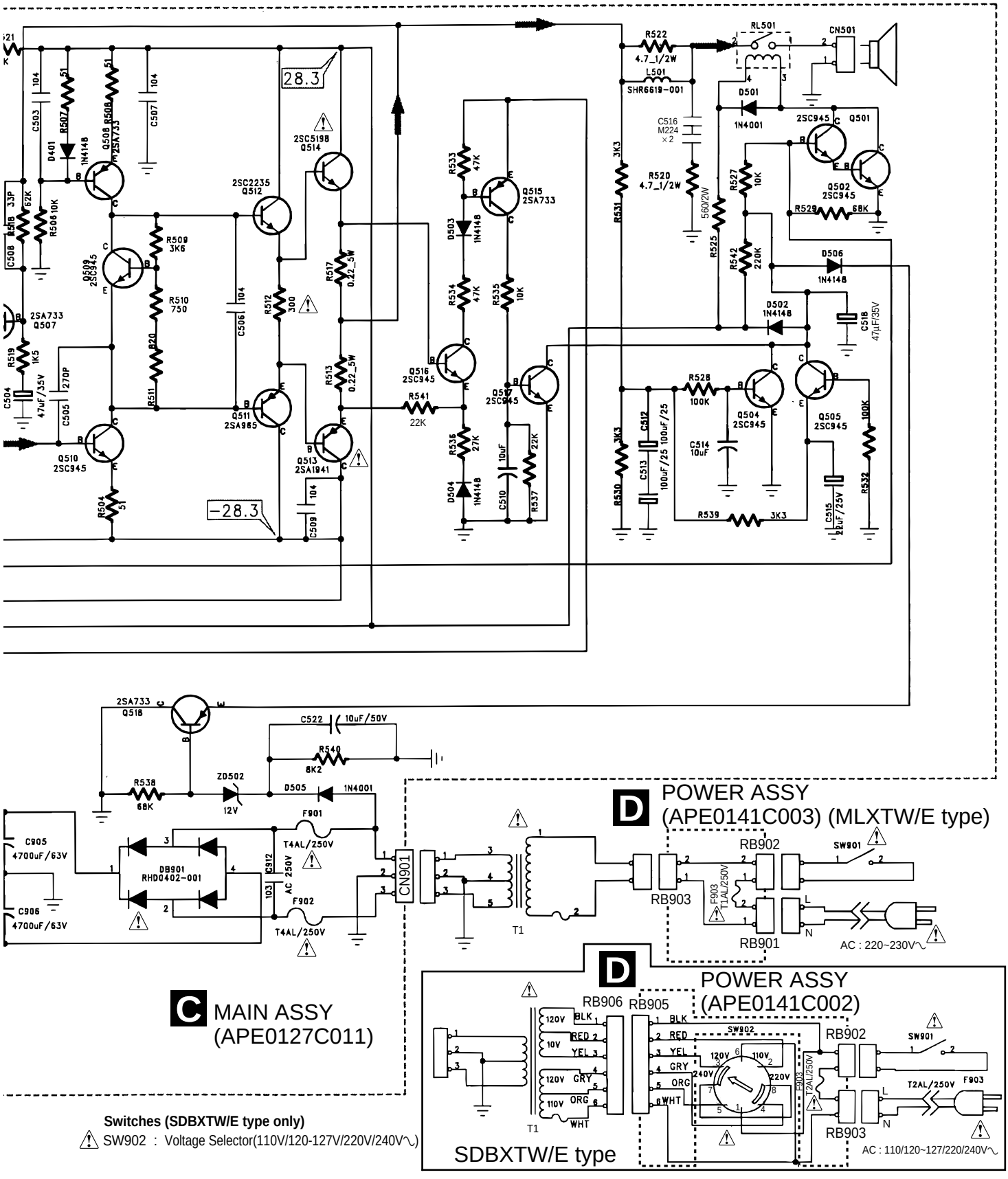
Mark	No.	Symbol and Description	Part No.		Remarks
			S-HS01/MLXTW/E	S-HS01/SDBXTW/E	
	1	POWER ASSY	APE0141C003	APE0141C002	
⚠	5	AC Power Cord	2559-022G22	47455-D77A	
⚠	7	Fuse (F903)	KSA2100-104 (T1AL/250V)	KSA2200-104 (T2AL/250V)	
⚠	9	Power Trans (T1)	TTH2301C010	TTH2402C010	
NSP	23	Rear Plate	GSP0021C003	GSP0021C002	
	52	Rear Panel Cover	GSP0030C001	Not used	
⚠	53	Voltage Selector (SW902)	Not used	MSR1001-001	

3. SCHEMATIC DIAGRAM



Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".

: AUDIO SIGNAL ROUTE



C MAIN ASSY
(APE0127C011)

D POWER ASSY
(APE0141C003) (MLXTW/E type)

D POWER ASSY
(APE0141C002)

Switches (SDBXTW/E type only)

⚠ SW902 : Voltage Selector(110V/120-127V/220V/240V~)

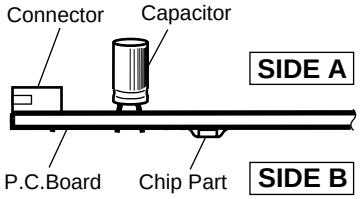
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

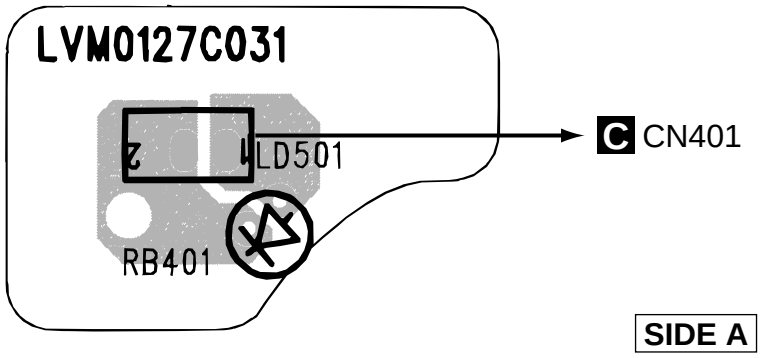
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

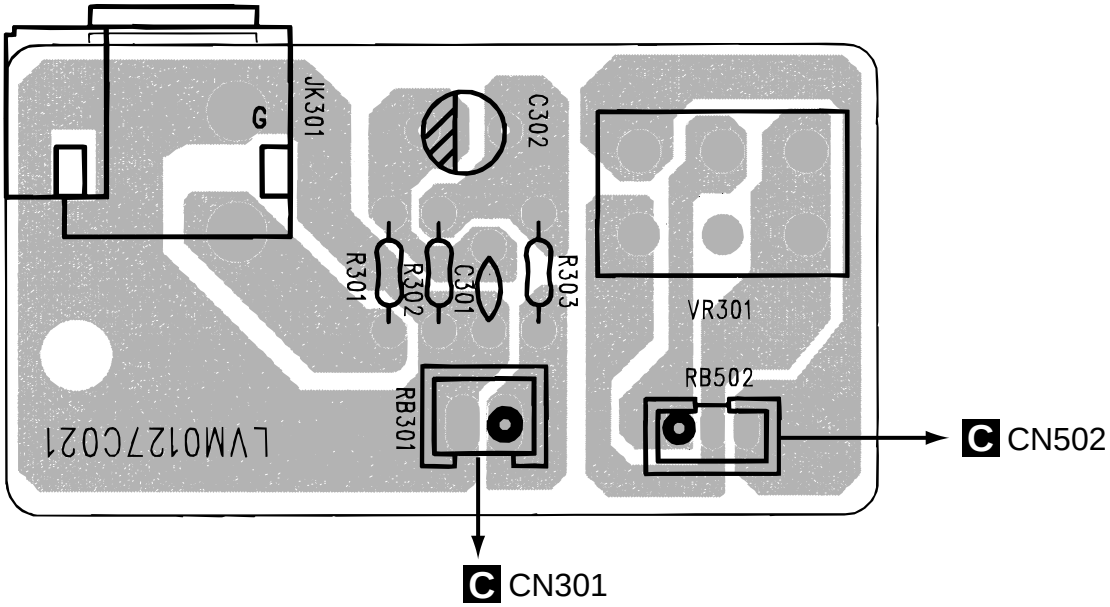


4.1 LED and JACK+VOL. ASSY

A LED ASSY



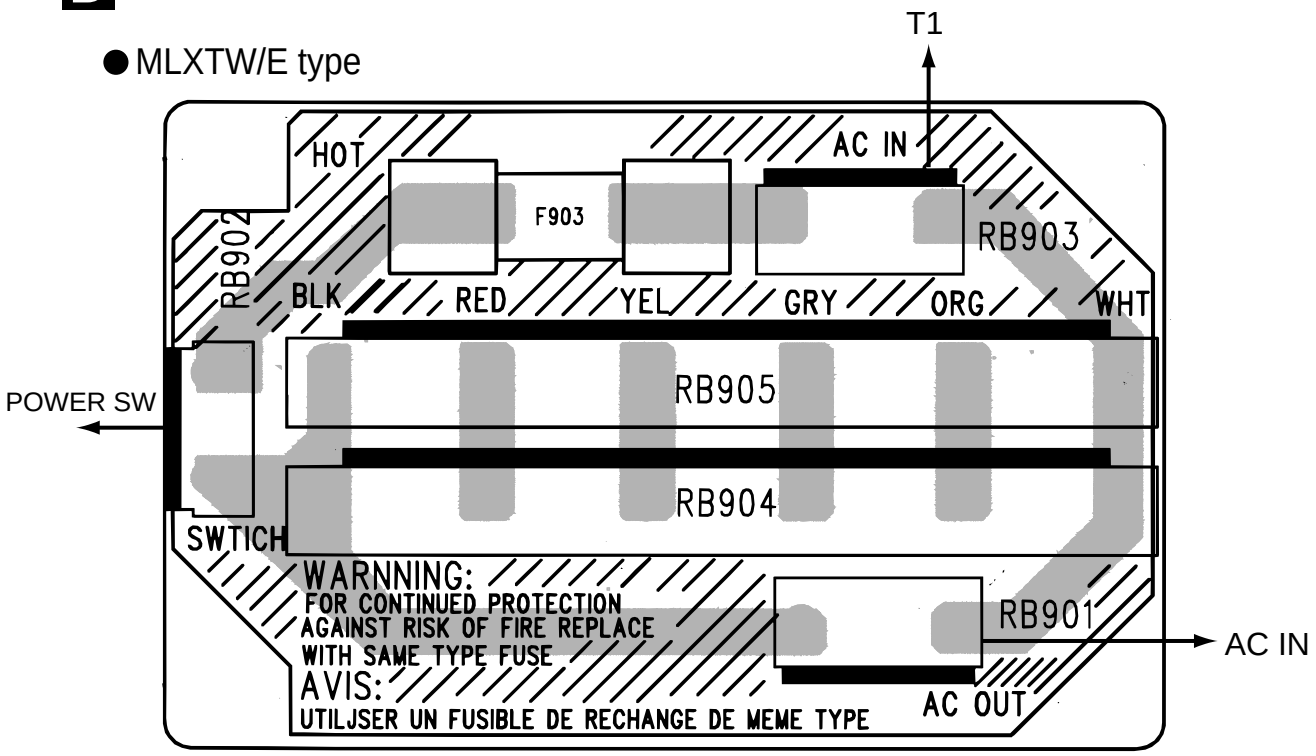
B JACK +VOL. ASSY



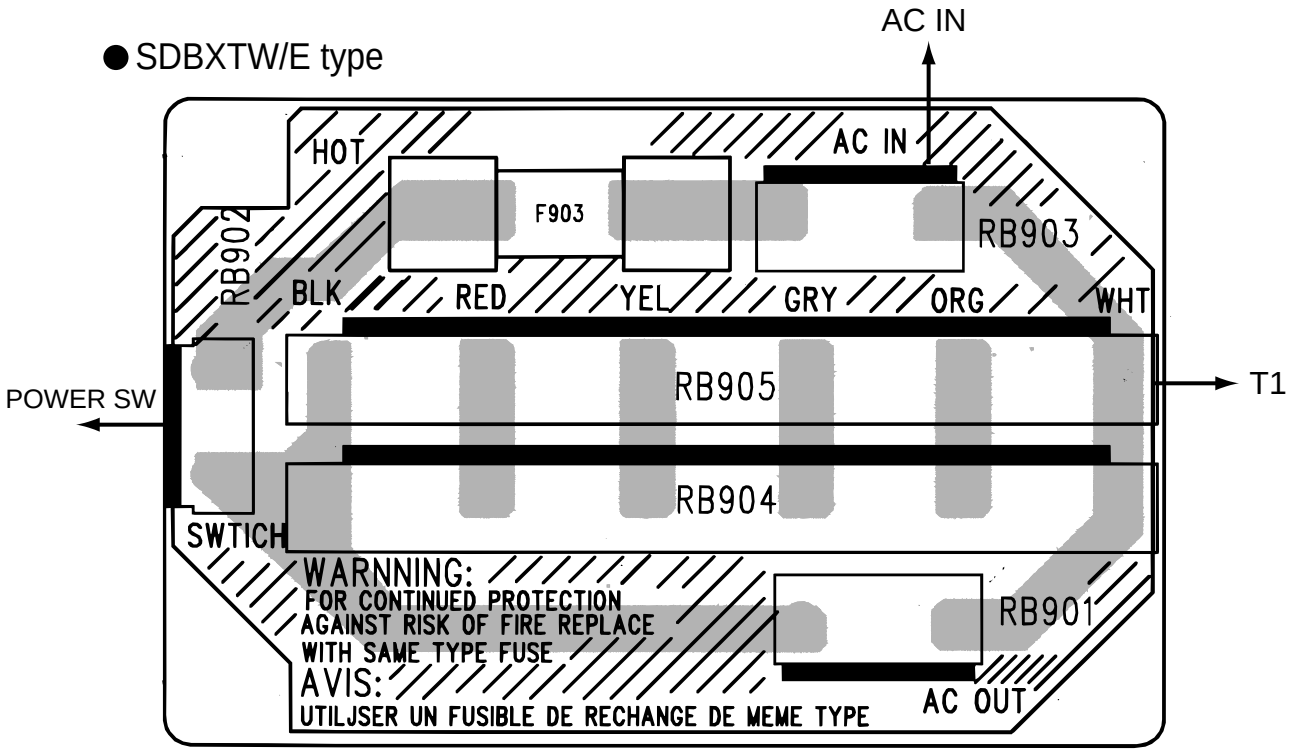
4.2 POWER ASSY

D POWER ASSY

● MLXTW/E type



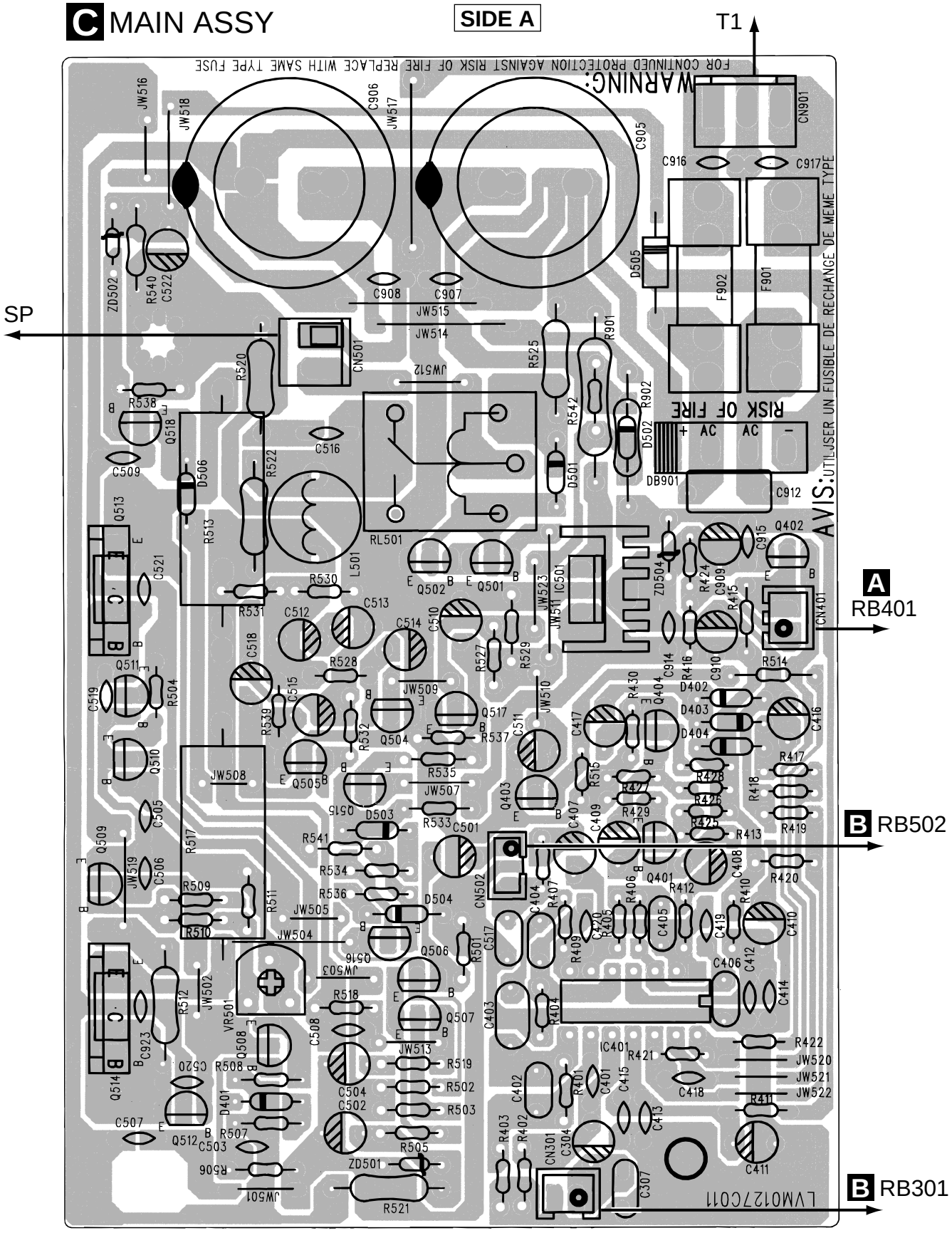
● SDBXTW/E type



4.3 MAIN ASSY

C MAIN ASSY

SIDE A



Q518
Q513
Q511
Q510
Q509
Q514 Q512 Q508 Q516 Q506 Q507 Q505 Q515 Q504 Q517 Q503 Q502 Q501 IC501 Q402 Q404 Q401 IC401

5. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560	→	*56 x 10^1*	→ *561*	····· *RD1/4PU 5 6 1 J*
47k	→	*47 x 10^3*	→ *473*	····· *RD1/4PU 4 7 3 J*
0.5	→	*R50*		····· *RN2H R 5 0 K*
1	→	*1R0*		····· *RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k	→	*562 x 10^1*	→ *5621*	····· *RN1/4PC 5 6 2 1 F*

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.		Remarks
		S-HS01/MLXTW/E	S-HS01/SDBXTW/E	
	LED ASSY	APE0127C031	APE0127C031	
	JACK+VOL. ASSY	APE0127C021	APE0127C021	
	MAIN ASSY	APE0127C011	APE0127C011	
	POWER ASSY	APE0141C003	APE0141C002	

D POWER Assy

APE0141C003 and APE0141C002 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		APE0141C003	APE0141C002	
NSP	RB901 (2P)	used(unregistered part)	Not used	
NSP	RB905 (6P)	Not used	used(unregistered part)	

Mark	No.	Description	Part No.
A		**LED ASSY**	
		SEMICONDUCTOR	
	LD501		KEM0002-006
B		**JACK+VOL. ASSY**	
		RESISTOR	
	VR301 (10KΩ)		MRR0103-004
C		**MAIN ASSY**	
		SEMICONDUCTORS	
	IC401		RHI0740-001
	IC501		RHI7815-001
⚠	Q513		RHP1941-001
⚠	Q514		RHN5198-001
	Q512		RHN2235-001
	Q511		RHP0965-001
	Q506-Q508,Q515,Q518		RAP0733-001
	Q401-Q404,Q501,Q502,Q504		RAN0945-001
	Q505,Q509,Q510,Q516,Q517		RAN0945-001
	D501,D505		RAD4001-001
	D401-D404,D502-D504,D506		RAD4148-001
	ZD501,ZD502		RAZ0859-081
	ZD504		RAZ0859-084
⚠	DB901		RHD0402-101

Mark	No.	Description	Part No.
		RELAY	
	RL501		MRL2212-005
		RESISTORS	
	R513,R517		QHE5050-228
⚠	R512		QAS0450-301
D		**POWER ASSY**	
		POWER ASSY has no service part.	

6. ADJUSTMENT

These models have no adjustment.

7. GENERAL INFORMATION

7.1 DISASSEMBLY

1. PRECAUTION FOR THE SPEAKER

■ SATELLITE SPEAKER

- The speaker unit is attached to the grille by 4 internal screws. To detach it, first remove the cabinet by unfastening the 4 screws of the cabinet rearside. Then remove the speaker unit by unfastening those screws.
  When attaching it, face its (+)side terminal upward.

■ POWERED SUBWOOFER

- The woofer is attached to the baffle by 4 external screws. To detach it, first remove the rear plate cover by unfastening the 4 screws attaching it. Then remove the woofer by unfastening those screws.
  When attaching it, face its terminal rightward. After attaching the woofer, attach the rear plate cover by fastening 4 screws.

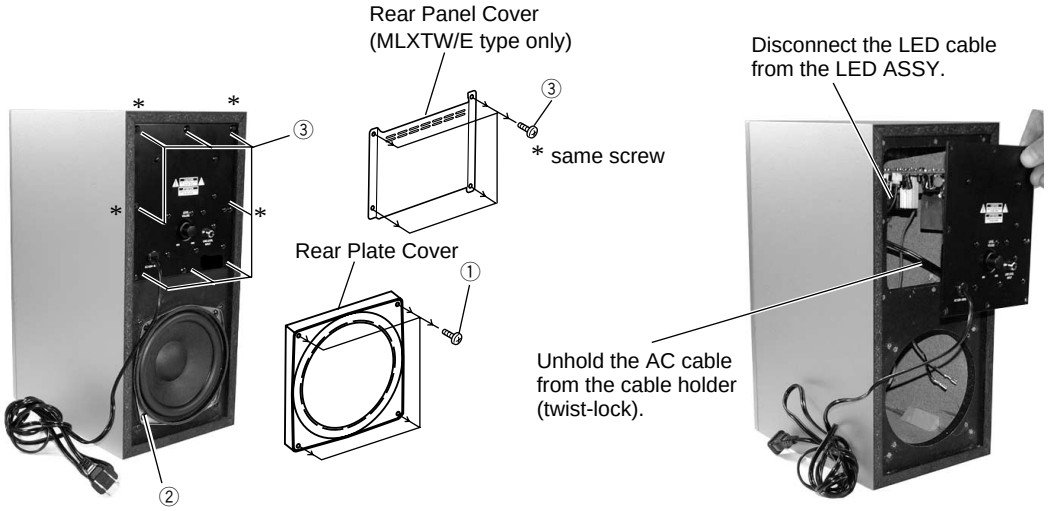
2. REMOVING THE AMP ASSY

1) Remove the rear plate cover by unfastening 4 screws ① attaching it.

2) Remove the woofer by unfastening 4 screws ② attaching it. Also disconnect the speaker cord.

3) (MLXTW/E type only)
   Remove the Rear Panel Cover by unfastening 4 screws ③ attaching both Rear Panel Cover and Rear Plate.

4) Unhold the AC cable from the cable holder(twist-lock) by inserting the hand to the cabinet hole for the woofer. Then pull the AMP ASSY toward you by unfastening outer 8 screws ③ attaching it. At this time pull the AMP ASSY after disconnecting the LED cable from the LED ASSY.

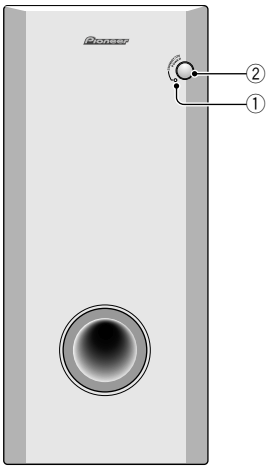


8. PANEL FACILITIES AND SPECIFICATIONS

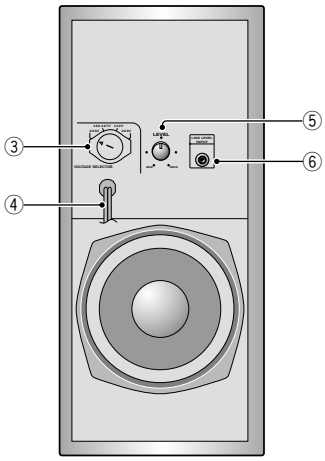
8.1 PANEL FACILITIES

■ POWERED SUBWOOFER

Front Panel



Rear Panel



SDBXTW/E type

①**Power indicator (STANDBY/ON)**
Lights red when the power has been switched ON. Lights green when the speakers receive an audio signal. If the power is switched OFF only briefly, the indicator lights green when power is restored. If no signal is present for more than 9 minutes, the subwoofer automatically reverts to standby mode and the power indicator lights red. If, subsequently, a signal is received, power
automatically comes back on and the power indicator lights green.

②**POWER switch**
Pressing once switches the unit ON. Press again to switch OFF.

NOTE:
If you are planning on switching the unit OFF for a long period of time, make sure to check that the indicator light has gone out after switching OFF.

③**Voltage Selector (VOLTAGE SELECTOR)**
SDBXTW/E type only

④**AC power cord**
Connect to a AC power outlet in the wall.

⑤**Level knob (LEVEL)**
Sets the subwoofer volume.
- Turn the knob slowly from the MIN position.
- With this unit, the bass level can be independently set, so do not turn up the bass on the stereo amplifier.

⑥**Line Level Input terminal (LINE LEVEL INPUT)**
Connects to the stereo amplifier's SUBWOOFER PRE-OUT terminal, with the specially provided RCA plug cord.

8.2 SPECIFICATIONS

Satellite speakers:

Enclosure ..... Closed Box, bookshelf type
System ..... 15 x 6 cm cone type
Nominal Impedance ..... 8 Ω
Frequency Range ..... 140 Hz to 35,000 Hz
Sensitivity ..... 86 dB/W at 1 m distance
Maximum input ..... 40 W
External Dimensions ..... 76(W) x 210(H) x 81(D) mm
Weight(without package) ..... 0.67 kg

Subwoofer:

Power Requirements ..... 220–230 V∿,
(MLXTW/E type) 50/60 Hz
Power Requirements ..... 110V/120 – 127V/220V/240 V∿
(SDBXTW/E type) (swichable), 50/60 Hz
Power Consumption (MLXTW/E type) ..... 35 W
Power Consumption (SDBXTW/E type) ..... 130 W
Outline Dimensions ..... 165(W) x 360(H) x 254(D) mm
Weight(without package) ..... 6.6 kg

Power Amplifier:
Continous Power Output (RMS) .. 50 W/4 Ω (40 – 200 Hz)
Total Harmonic Distortion
..... 0.5 % (40 – 200 Hz, 4 Ω, 12.5 W)

Input (sensitivity at 100 Hz/impedance)
LINE LEVEL (RCA jack) ..... 160 mV/50 kΩ

Speaker:
Enclosure ..... Bass-reflex, floor-standing type
System ..... 14 cm cone type

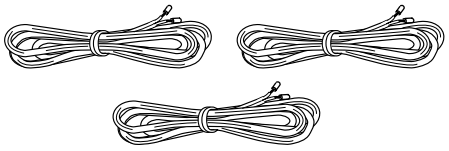
Accessory Parts

Speaker cords x 5 (5mx3, 10mx2)
RCA plug cord x 1
Non-slip pads (5x3)
Color-coded labels (5x2)
Operating instructions x 1

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.

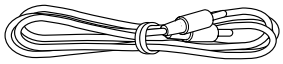
■ ACCESSORIES

- Speaker Cords
  SDS1086 (L=5m) ×2

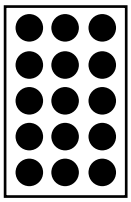


SDS1087 (L=10m) ×2

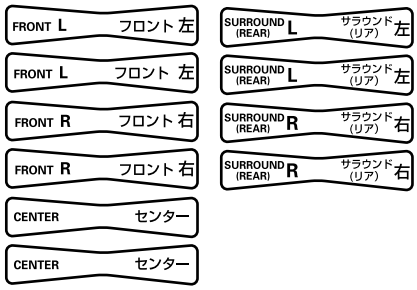
- RCA Plug Cord
  VRC0001-A06 (L=3m) ×1



- Non Slip Pads
  SEP1227 5×3



- Color-coded Labels
  SRW1082 5×2


FRONT L フロント 左
FRONT L フロント 左
FRONT R フロント 右
FRONT R フロント 右
CENTER センター
CENTER センター
SURROUND (REAR) L サラウンド (リア) 左
SURROUND (REAR) L サラウンド (リア) 左
SURROUND (REAR) R サラウンド (リア) 右
SURROUND (REAR) R サラウンド (リア) 右

- Operating Instructions
  SRD1229 ×1 (MLXTW/E type)
  SRD1230 ×1 (SDBXTW/E type)